

REMARKS

Applicants respectfully request consideration of the subject application as amended herein. This Amendment is submitted in response to the Office Action mailed February 26, 2007. Claims 1, 2, 4-22, 37-40, 42-60, 99-102 and 105-111 are pending. In this Amendment, no claims have been amended. Claims 112-114 are added to clarify an aspect of the subject matter described. No new matter is added by the new claims.

Rejections under 35 U.S.C. § 102

Claims 1, 2, 5-8, 22, 37, 38, 40, 56, 58-60, 105, and 111 are rejected under 35 U.S.C. 102(b) as being anticipated by Akita (WO 2001-62517).

Independent claims 1, 37 and 111

Independent claims 1, 37 and 111 contain the feature ... a thin-film planarization dielectric layer formed directly over a portion of the integrated circuit and a portion of the substrate; a conductive medium, covering at least a portion of the integrated circuit and a portion of the first substrate extending beyond edges of the integrated circuit, formed directly over the thin-film dielectric layer and attached to the conductive pad via a contact hole, the conductive medium having a greater surface area than the conductive pad, wherein the conductive medium is a conductive paste ... (Emphasis added). The planarization layer extends beyond the edges of the integrated circuit because it is over a portion of the substrate.

Applicant re-asserts the arguments presented in the previous response to the Office Action (Aug 23, 2006) and respectfully disagrees that independent claims 1, 37 and 111 are anticipated by Akita.

Applicant further disagrees with the response to arguments on page 10 in the current

Office Action (Feb 26, 07) and will clarify Applicants' arguments while responding to comments on page 10 of the Office Action.

The Office Action states in paragraph [35] on page 10 that, Applicants argue:

“Layer 36 of Akita is not a dielectric layer but an epoxy resin layer which does not function as a dielectric layer as can be best understood by the applicants.”

And in paragraph [36] on page 10 that, Examiner responds:

“The epoxy resin layer of Akita is a dielectric layer.”

Applicant respectfully refer back to page 13, the second full paragraph which states:

“Applicants respectfully submit that the epoxy resin layer is not the same as a ‘thin-film planarization dielectric layer’. Akita’s epoxy resin layer is a photosensitive epoxy resin layer. An epoxy resin may perform a similar function to insulate like a dielectric layer, but an epoxy resin is quite different than a thin-film planarization dielectric layer.” (Emphasis added, as in the original response)

First, the elements claimed inherently possess different properties because of the process by which they are made. The third paragraph in page 13 of the response distinguishes a thin-film planarization layer. Specifically, the epoxy resin in Akita is a “photosensitive” epoxy resin, while Applicant claims a “thin-film” planarization layer. An epoxy resin is applied using a non-vacuum process, generally at or near atmospheric pressure as known by one skilled in the ordinary art, while a “thin-film” is applied through the use of vacuum or low-pressure processes. Therefore, a “thin-film planarization layer” is different from an epoxy resin layer because the chemical structure of a thin-film planarization layer is different from that of a photosensitive epoxy resin layer.

For this reason, Applicants maintain that a thin-film planarization layer is not the same as an epoxy resin layer, while maintaining that it may perform one similar function to

insulate.

Applicants bring attention to part of the feature claimed is a “thin-film planarization layer directly over a portion of the integrated circuit and a portion of the substrate extending beyond edges of the integrated circuit”. Three elements are important in this feature. First, the element claimed is a “thin-film” planarization layer, not an “epoxy resin layer”. Second, the thin-film layer is a “planarization” layer. Third, the “thin-film planarization layer is directly over a portion of the integrated circuit and a portion of the substrate extending beyond edges of the IC.”

In contrast, Applicants respectfully submit that Akita’s epoxy resin layer is not “directly over” a portion of the integrated circuit and a portion of the substrate.

The Office Action states in paragraph [32] on page 10 that:

“Akita clearly shows these limitations of the claimed invention. The aforementioned passivation layer 22 and UMB layer 19 are integrally formed to be part of the IC 4 (see, e.g., col.5/ll. 1-7 and col.8/ll35-55). See also, e.g., fig. 12, where Akita shows the dielectric layer 36 directly over the IC 4 and covering a portion of the substrate 10 extending beyond the edges of the IC 4”

Applicant respectfully submit that Figure 12 shows a photosensitive epoxy resin layer (36) “directly over” a glass passivation film (22), which is “directly over” the IC (4), as described in Col. 8, lines 46-55. First, the epoxy resin layer is not a thin-film planarization layer. Second, the planarization layer, if there is one in Akita, is considered to be the glass passivation layer 22, which is “directly over” the IC, but is not directly over a portion of the substrate, and does not extend beyond edges of the IC. Third, the epoxy layer is merely “over” but not “directly over” a portion of the integrated circuit. Instead, the epoxy layer is “directly over” the glass passivation layer 22, which is “directly over” the IC. Applicant respectfully submits the Office Action’s interpretation of the claim language failed to

consider the emphasis which is given by “directly”.

The Office Action states in paragraph [34] on page 10 that:

“Akita clearly shows these limitations of the claimed invention. See, e.g., fig. 12, where Akita shows the conductive medium 11/21 directly over the dielectric layer 36, not in direct contact with the IC or the substrate, and attached to the conductive pad 19 via a contact hole.”

Applicants respectfully point out that Figure 12 of Akita shows an electrode 11a directly over a photosensitive epoxy layer 36. The electrode 11a is directly connected to a conductive paste 21 (See also Figure 5 and Col. 6 lines 53-60) which is directly over an electrode 12a on the IC 4. There is also a glass passivation layer 22 which is formed over the IC 4 only but does not extend to a portion of the substrate. In fact, glass passivation layer 22 is flush with the top surface of the substrate 10 and the epoxy resin layer is directly over the passivation layer 22 and the top surface of the substrate 10.

Applicants respectfully maintain that the epoxy resin layer is not the same as the thin-film layer on which the conductive medium is formed directly over. Furthermore, Akita's disclosure is fundamentally different than the Applicants' disclosure because Akita uses a glass passivation layer to fill the gap between the top surface of the IC with the top surface of the substrate. In other words, Akita has two layers of insulators (22 and 36) between the IC (4) and the conductive medium (11a), whereas in one embodiment, Applicants' disclosure only has one insulator, the thin-film planarization layer, between the conductive medium and the IC.

For at least the reasons explained above, Applicants respectfully submit that Akita fails to anticipate all the elements as claimed and respectfully request the withdrawal of the claim rejections.

Dependent claims 2, 5-8, 22, 38, 40, 56, 58-60, 105

Claims 2, 5-8, 22, 38, 40, 56, 58-60, 105 depend from independent claims 1, 37 and 111 and incorporate all their features. For at least this reason, Applicants respectfully submit they are not anticipated by Akita and respectfully request the withdrawal of the claim rejections.

Rejections under 35 U.S.C. § 103

Claims 9 and 57 are rejected under 35 U.S.C. §103(a) as being unpatentable over Akita.

Claims 9 and 57 depend from independent claim 1 and 37. As described above, Akita fails to anticipate each and every element of independent claims 1 and 37. Applicants respectfully submit the features as claimed are not obvious to one of ordinary skill in the art at the time of Akita's disclosure. Applicants respectfully submit there is no basis for one of ordinary skill in the art to conceive the combination of elements in view of Akita, and the rejection is based on impermissible hindsight reconstruction. For at least this reason, Applicants respectfully submit claims 9 and 57 are patentable in view of Akita and respectfully request the withdrawal of the claim rejections.

Claim 106 is rejected under 35 U.S.C. §103(a) as being unpatentable over Akita.

Claim 106 depends from independent claim 1. As described above, Akita fails to anticipate each and every element of independent claim 1. Applicants respectfully submit the features as claimed are not obvious to one of ordinary skill in the art at the time of Akita's disclosure. Applicants respectfully submit there is no basis for one of ordinary skill in the art

to conceive the combination of elements in view of Akita, and the rejection is based on impermissible hindsight reconstruction. For at least this reason, Applicants respectfully submit claim 106 is patentable in view of Akita and respectfully request the withdrawal of the claim rejections.

Claim 107 is rejected under 35 U.S.C. §103(a) as being unpatentable over Akita in view of Fjelstad (U.S. Pat. No. 6, 211,572).

Claim 107 depends from independent claim 1. As described above, Akita fails to anticipate each and every element of independent claim 1. Fjelstad fails to teach or suggest the features as claimed in independent claim 1 and thus fails to cure the deficiency of Akita. For at least this reason, Applicants submit that claim 107 is patentable over Akita in view of Fjelstad and respectfully request the withdrawal of the claim rejection.

CONCLUSION

Applicants respectfully submit that in view of the amendments and arguments set forth herein, the rejections herein have been overcome. Accordingly, it is believed that all pending claims define the subject invention over the prior art of record and are in condition for allowance. If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact Arthur Au at (408) 720-8300.

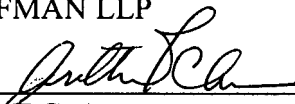
Deposit Account Authorization

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due.

Respectfully submitted,

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